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THE GREAT EQUALIZER?: GLOBALIZATION EFFECTS ON GENDER
EQUALITY IN LATIN AMERICA AND THE CARIBBEAN

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Abstract

This paper assesses the impact of 30 years of globalization on gender equity in well-being in Latin America and the Caribbean. Data indicate that while some gaps in well-being have narrowed, progress is uneven across a set of nine indicators, and in some cases, conditions have worsened. Despite the optimism of market proponents, growth is not found to be an equalizer for gender anymore than it has been shown to be by class. The results here indicate that growth exhibits a negative effect on some indicators, while growth of real government expenditures, female share of the labor force, and structural change variables exert a positive effect.

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J16 Economics of gender

THE GREAT EQUALIZER?: GLOBALIZATION EFFECTS ON GENDER EQUALITY IN LATIN AMERICA AND THE CARIBBEAN

I. INTRODUCTION

Globally, gender gaps in well-being remain pervasive. Proponents of globalization have argued that economic growth, facilitated by policies to liberalize investment, trade, and financial flows as well as to privatize industry and reduce public sector deficits, will have a differentially beneficial effect on gender equality. Competitive pressures in a globalized economy, it is argued, make women an attractive source of labor, given their relatively lower wages. In the Latin America and Caribbean (LAC) region where there is greater gender equity in education relative to other regions of the developing world, globalization *cum* liberalization of markets then should bode well for women.

Critics of globalization have argued that women are often disadvantaged in an economic process founded on liberalized trade, investment, and financial flows. This is related to the fact that the state's role is often attenuated under such a policy regime, in part because the mobility of capital puts downward pressure on public spending, making it difficult to fund social spending and safety nets. Further, there is evidence that employment is increasingly insecure, and women are often slotted for the jobs with the least security. Finally, investment mobility is greatest in labor-intensive industries, where women are concentrated. Women are disadvantaged in efforts to bargain for higher wages, since firms can credibly threaten to relocate in such cases.

To evaluate these competing hypotheses, I consider the case of Latin America and the Caribbean. Economic performance in the region has varied widely over the last 30 years. Most countries have taken significant steps to liberalize their economies, either voluntarily or due to pressure from international financial institutions in the context of structural adjustment. A consequent shift in economic structure is evident throughout the region, with growth of export demand contributing to an increase in manufacturing as a share of GDP in most countries. These industries tend to be female-intensive in employment.

On the supply side, women in the region, already by 1970, ranked substantially above women from other developing regions in well-being, measured in terms of health and education (although they had less education than men). They did not, however, have equitable opportunities to earn income, and faced exclusion from positions of power in political and economic institutions. This region then is an interesting one in which to consider the effects of globalization, both because the moves toward liberalization have been substantial and because women had many of the prerequisites to participate in the paid economy as workers.

To consider these issues, I begin first by reviewing the literature on gender and economic growth. I then develop a set of well-being indicators, using a Borda ranking methodology that facilitates comparisons across countries. Trends in well-being are assessed, and the effects of growth since 1970 on these trends are evaluated. Panel data analysis is also used to measure the impact of four categories of variables on trends in gender gaps in well-being—female bargaining power, structure of production, macroeconomic conditions, and government spending.

II. GROWTH AND GENDER EQUITY

Gender inequality in developing countries may be linked to the inadequacy of societies' material resources. Females, it is often argued, are placed at the back of the queue, whether for food, health care, education or jobs, given that all of these are in short supply. We might therefore expect per capita income to be positively correlated with gender inequality, and indeed, several studies provide evidence to support this hypothesis (Dollar and Gatti 2001; World Bank 2001).¹ As a result, economic growth is argued to be a key factor in promoting gender equity in well-being. If this holds, the thorny question of *how* to stimulate economic growth still remains. The debate can broadly be characterized as between those who argue for market liberalization against the view that the state plays an important role in moving economies up the industrial ladder to higher value-added production and in insuring a fair distribution of resources.²

Proponents of trade, investment, and financial liberalization, and privatization—or succinctly, globalization—have argued that women, in particular, should benefit from a strategy that relies on economic openness and, in particular, exports as the engine of growth. This is because women are the preferred source of labor, owing to competitive

pressures firms face to keep unit labor costs low. Sustained demand for female labor should drive up female wages relative to those of men as labor markets tighten. Increased access to jobs and higher relative wages raise women's incomes absolutely and indirectly, by increasing their bargaining power within the household to leverage a more equitable distribution of resources.

Moreover, rapid growth, signaling rising per capita incomes, should generate more revenue for households to invest in female family members, closing the gender gap in well-being. This "income effect," in the view of some, is not necessarily gender-biased, since females' lower future earnings make it rational to direct household investments to men when income is limited. By implication, this view suggests that economic growth will overcome the structural bias against females. Further, it is conceivable that economic growth generates increases in state-level resources that can be differentially allocated to females, thus improving their relative well-being during the process of growth.

There is ample research, however, showing that the benefits of economic growth under the recent regime of globalization are not necessarily broadly shared—across class, ethnic, or gender groups (Milanovic 2002, Benería 2003). Numerous authors, for example, state that Latin America grew more slowly than Asia over the last three decades because the benefits of growth were not broadly shared, leading to political conflict that resulted in dysfunctional macroeconomic policy and ultimately, slower growth (Larraín and Vergara 1998).

Using a human development approach, Ranis and Stewart (2002) find little evidence of beneficial effects of economic growth in LAC over the past four decades. They attribute the failure of growth to improve human development in the region to the disruptive effects of debt crisis and harsh structural adjustment programs that relied on excessive cuts in social expenditures. They find evidence, however, that growth combined with high social expenditures did promote growth in some countries in the region. It is precisely this latter component, however, which is compromised in the globalization process as state-level mechanisms to provide a safety net are inhibited through declining tax revenues, privatization of public sector social services, and slow growth induced by financial mobility effects on domestic interest rates.

Research in the area of gender and macroeconomics reveals that the effects of economic growth on women's relative well-being differ, depending on how women's labor and unpaid labor are affected by a country's growth path, and by implication, the shifting economic structure. One thread of that work explores the ways in which the process of capital accumulation can lead firms to exploit women's gender role, with women channeled into the most insecure jobs (Benería and Sen 1981; Elson and Pearson 1981; Standing 1989; Hsiung 1996). For example, in Latin America, informal sector employment as a share of total non-agricultural employment has been rising since 1980, with 57% of jobs characterized as informal in the 1990s (Gatti and Kucera 2004). Almost half of all women work in the informal sector, and they are more likely than men to be in informal sector work (Charmes 2000).

Although informal sector work is sometimes residual employment, in the Latin America region, Benería (2003) argues that the informal and formal sectors are linked through subcontracting. This strategy is compatible with gender norms, reflecting as it does, the "male breadwinner" bias in job allocation (Elson and Cagatay 2000). While this strategy enhances profits, it also undermines the benefits of increased demand for female labor since the lack of a job ladder and the tenuousness of these jobs hold down female wages. There is evidence that these tendencies have worsened during the recent period of globalization, which shifts economies from a wage-led to profit-led growth path, and in the process, leads to heightened competition.³

The degree to which women benefit from liberalization-induced growth is also influenced by how the structure of the economy changes, coupled with patterns of job segregation. Years ago, Boserup (1970) argued that women are marginalized in this structural shift, due to technological change that favors men's access to resources. While she referred primarily to the shift from agriculture to industrial production, her arguments continue to hold currency. Female labor absorption under insecure conditions of work is notable in semi-industrialized economies where labor-intensive manufacturing growth has been strong, and, to a lesser but growing extent, services (Standing 1989). In some countries, the growth of the services sector is a result of worsened conditions in the industrial sector, and its increase as a share of GDP reflects the growth of residual employment in the informal sector as workers are sloughed off from industrial sector with trade liberalization (Kempadoo 1999; Benería 2000; Charmes 2000). In other cases,

the expansion of the services sector is based on increased export demand for informatics services, reflecting a structural shift away from manufacturing or agriculture.⁴

Whatever the determinants of services and manufacturing expansion as a share of GDP, these are female-intensive sectors (Standing 1989). This contrasts with country experiences in which resource- or capital-intensive manufacturing growth has provided a significant demand-side stimulus. In those cases, labor demand tends to be male-dominated. Examples of the latter are Trinidad and Tobago, where the petroleum industry dominates, and Taiwan, where the move up the industrial ladder has led to women's marginalization in the manufacturing sector (Berik 2000). Most developing economies fall into the former category, where liberalization and other policies have led to the expansion of labor-intensive manufacturing and services.

Do these structural shifts lead to improvements in women's well-being? Some have argued that they are likely to because women's access to employment increases, which can improve their bargaining power in the home. Lim (1990) and Kabeer (2000) emphasize this aspect of liberalization and export-oriented growth, arguing that women gain on net, while others (including Kabeer herself), note that women's access to insecure work may have little effect on women's "voice" within the household (see also Benería 2003). The net effect on female relative well-being remains, however, an empirical question.

Trade expansion has also been argued to be female labor intensive, although again the effects on well-being are ambiguous. Although not focused on specifically on gender, Winters, McCulloch, and McKay's (2004) conclude from their review of the empirical evidence that trade liberalization can and often does reduce income poverty, due to falling prices and expanded employment opportunities. Given that women are considered to be over-represented among the poor, it might be expected that trade liberalization in the region over the last 30 years has contributed to greater gender equity in well-being.

Several studies note, however, that the employment benefits of trade liberalization differentially affect women and men due to job segregation that slots women for less desirable jobs (Fontana, Joeques, and Masika 1998; Cagatay 2001). The positive effect of female access to paid work is offset by women's relatively weaker bargaining power to negotiate with employers for higher wages. In research on Mexican *maquila* workers, Fussell (2002) finds, for example, that as export manufacturing has become more

competitive internationally, wages have declined steadily. She notes that although export manufacturing “may provide employment to the least-skilled women who have few other options in the local labor market...overall, it reflects a race to the bottom in manufacturing wages resulting from globalization of production” (Fussell 2000: 77). This is because women tend to be concentrated in “mobile” industries—industries for which it is relatively easier to relocate to lower wage sites, should wages rise, as compared to men who are more concentrated in non-tradable, capital-intensive industries (Brofenbrenner 2000; Seguino 2000c, 2003).

Further, women’s access to paid work may increase total labor time, if men do not contribute to the performance of unpaid tasks (Floro 1995). Female unpaid labor time may also increase if liberalization results in male out migration in search of work, as in the case of Mexican corn farmers post-NAFTA (Winters, McCulloch, and McKay 2004). Insofar as increased workload compromises women’s health (or leads to excessive demands on girl children), female relative well-being may be compromised. Moreover, while import tariff reductions can reduce the cost of basic goods, which benefits women in their role as family caretakers, they may be costly if this leads to disproportionate female loss of employment. Trade liberalization is also often associated with currency devaluation, which raises the cost of imported goods, and in those cases, household budgets are squeezed, placing greater pressure on women to find alternative resources to support their families.

Finally, economic growth increases resources available for government investment in public goods that improve well-being. But two problems exist, making the link between growth, public spending, and equity tenuous. First, there has been a marked increase in pressure from international financial institutions and financial markets for governments to privatize social services and to reduce public sector spending. Second, there is no guarantee that public expenditures will be gender-enabling. Gender-sensitive budget analysis reveals government spending as a source of inequality in gender well-being.⁵

We can summarize this discussion by describing the potential effects of growth on women’s relative well-being as occurring along three pathways. As per capita income rises, more resources can be shared with women: 1) at the household level, because higher incomes leave more resources for female members of the family, who previously

received a smaller share; 2) due to higher levels of government spending, insofar as these increase female access to education and health care, 3) because job creation disproportionately benefits women, and as a result, women have more bargaining power in the household and/or are seen as more economically valuable.

An alternative viewpoint is that women's ability to achieve parity in quality of life with men is likely to depend on the type of growth process and development strategy, with equity dependent on strategies that favorably affect, for example, the distribution of jobs by sex, and state-level expenditure patterns that are female-enabling. Indeed, it can be argued that growth is not necessary for 2) and 3) to occur since, regardless of the growth rate of the economy, government could choose to reallocate expenditures to social spending that benefits women, or could increase women's relative access to jobs, by such policies as affirmative action.⁶ In this view, economic growth, as pursued in the recent period of globalization, is not sufficient to improve relative well-being.

III. CONCEPTUALIZING WELL-BEING

This paper considers the question of whether growth in the recent period of globalization has promoted gender equity in well-being in LAC. I focus on relative indicators of female well-being rather than absolute, since improved female bargaining power (which relative improvements in female well-being implies) is an essential means to leverage change in otherwise discriminatory norms and institutions.

Numerous efforts have been made in recent years to develop adequate indicators of gender differences in well-being. Recent research argues that gender relative well-being can be conceptualized as operating along three dimensions: 1) *capabilities gaps* refers to basic human abilities as measured through education, health and nutrition; 2) differences in *access to resources and opportunities* refers primarily to equality in the opportunity to generate income, measured with wage and employment data; and 3) *empowerment* reflects women's ability to participate in deliberative bodies in key social, economic and political institutions (Grown, Gupta, and Khan 2003; Malhotra, Schuler, and Boender 2002). The latter are often represented using female share of parliamentary seats and women's share of professional and technical positions as well as their share of managerial and administrative jobs.

It should be noted that there are likely feedback effects between the three categories of well-being. For example, an improvement in capabilities can establish the preconditions for participation in income-generating activities. The recent bargaining power literature, however, emphasizes that women's lesser well-being relative to men's is often due to unequal power in the household. Improvements in women's fallback position or outside options, as indicated by relative access to income, can improve their ability within the household to negotiate for an equitable distribution of resources and unpaid labor burden. The shift in power may have a positive effect on capabilities, particularly those of the young. It may also leverage women's increased access to deliberative bodies and to positions of economic power.

This study focuses on the capabilities and opportunities dimensions of well-being, although the specific indicators in each category differ somewhat from those used in other studies. (For a detailed discussion of all indicators, see Appendix A). In the capabilities category, three *health indicators*⁷ are used: the ratio of females to males in the population, the ratio of female to male mortality rates relative to a representative developed country (Sweden), and the fertility rate. In addition, there are three *education variables*: the ratio of female to male gross secondary school enrollment rates, the ratio of male to female illiteracy rates, and the ratio of female to male educational attainment for those over 15. Indicators of *women's relative access to material resources* are: the female share of the labor force, female share of total employment, and the ratio of male to female unemployment rates. This amounts to a 2/3 weighting for capabilities variables and 1/3 weighting of variables measuring access to resources and opportunities. Political and economic empowerment variables, though important, had to be omitted due to data deficiencies.

There have also been efforts to develop composite measures of gender equity in well-being. These are useful since there are divergences in gender equity across indicators even within the same country. Thus a country might have comparatively high relative female educational attainment, but score poorly on health indicators. The most well-known of these, the UNDP's Gender Development Index (GDI) and Gender Empowerment Measure (GEM), are problematic due to income components which confound absolute with relative well-being.⁸ Cross-country comparisons of trends in

well-being require that another method to aggregate the indicators be found. In this paper, I use a very simple method of rank order scoring, the Borda Rule.

IV. RELATIVE FEMALE WELL-BEING IN LATIN AMERICA AND THE CARIBBEAN

Data on the nine indicators discussed in the previous section were amassed for 21 Latin American and Caribbean countries for the period 1970 to 2000, or the closest year, where noted (See Table B.1 in Appendix B for a list of countries in the sample, and Table B.2. for a list of variables, definitions, and sources). This section provides an analysis of those data, evaluating cross-country differences in well-being in 2000 as well as secular trends in gender equity in well-being for the period 1970 to 2000. Countries with more than 3 missing variables were dropped from the sample, and unfortunately, this included a number of the small Caribbean island economies, making that region disproportionately underrepresented in the sample.

A. Data on well-being

A summary of gendered differences in well-being indicators for 21 Latin America and Caribbean economies in 2000 is given in Table 1. The cross-country comparisons show substantial variation in well-being across indicators. Some variables are correlated, as shown in Table 2, although in a number of cases, correlations are weak, arguing for the relevance of a composite index rather than relying on a single indicator. Notable is the strong positive correlation between female share of the labor force and the ratio of females to males in the population. Although this does not provide any information on causality, it is consistent with the argument that female bargaining power evidenced by participation in labor markets can influence gender well-being in other categories.

(Tables 1 and 2 about here).

Data on total years of educational attainment were missing for two countries—Bahamas and Belize. In order to retain as many countries as possible in the sample, missing data values were predicted by regressing the variable with missing values on the remaining well-being indicators.⁹ The resulting parameter estimates were used to predict the missing observations. (Those values that are predicted are shown in bold type in Table 1).

It is useful to discuss for a moment the issue of ratios of female to male educational attainment that exceed 1, which gives the impression of male disadvantage. This occurs in several countries in our sample, particularly in Anglophone Caribbean countries. A consequence of this state of affairs has been the proliferation of the thesis of the marginalization of the Caribbean male, with the ensuing debate reflecting confusion as to the legitimacy of continuing to focus on women, given male underachievement in education (Barriteau 2003).¹⁰ From this perspective, it could be argued that if our concern is gender equity, male disadvantage should also be penalized in our assessments of a country's progress. Mathematically devising a formula to do so in these analyses does not pose a problem. Rather, of deeper concern are the conceptual issues. Should a country be considered male disadvantaged in some areas, e.g., education, if male well-being exceeds that of females in several others? Given the gender inequities in most other categories, for this analysis, I forgo use of a ranking strategy that penalizes male inequality.

Focusing on how women's relative well-being has changed over time, Table 3 summarizes changes in gendered measures of well-being for the period 1970 to 2000. In many cases, the direction of change is toward improvement in well-being, but there are a number of cases in which female relative well-being has worsened.

Several categories are of particular interest. The ratio of females to males in the population fell in 10 out of 21 countries. In other contexts, low F/M population ratios are attributed to female disadvantage in access to food, nutrition, or infanticide and sex selective abortion (Sen 1990). In the Caribbean, the cause may be more strongly related to female out-migration, which occurs at a slightly higher rate than for males. In seven countries, the ratio of female to male unemployment rates fell, indicating women's decreasing ability to obtain work relative to men. Women's relative access to secondary schooling also fell in 6 countries, while the ratio of female to male unemployment rates rose in 8 countries, indicating an increased burden of joblessness borne by women. Note also that in four countries, female to male educational attainment fell.

Average changes (weighted and unweighted by population) are shown in the last two lines of the table. On average, the unweighted change is towards improved well-being (the improvement is statistically significant for all but F/M population ratios and unemployment rates). With regard to weighted changes in well-being, the single dimension along which women fare worse is access to work, as indicated by the increase

in the female to male unemployment rate ratio. This is driven by declines in women's relative access to work in Brazil, the largest country in the sample. The decline is statistically significant.

These average data allow us to make some comparisons between flow and stock variables, the former representing current levels of female disadvantage and the latter cumulative disadvantage. We might anticipate that if female disadvantage were waning, the average change in secondary school enrollment rates (a flow) would be larger than change in total educational attainment (a stock). It is larger, a difference that is statistically significant.

On the other hand, while the weighted average change in female share of the labor force was 11.64 percentage points for this sample, women's share of employment increased only 5.73 percentage points. This is indicative of women's greater difficulty in finding employment, and is also consistent with the view of numerous observers that female labor force participation in LAC in the past 2 decades is related to distress sales of labor as male incomes have declined and public services decreased, rather than an emancipatory reallocation of labor time.

(Table 3 about here).

B. Ranking Ordering Using the Borda Rule

A cross-country comparison of trends in well-being requires that we find a method to aggregate the set of indicators. To do this, I use a very simple method of rank-order scoring, the Borda Rule. The basis of the rule is as follows. To rank countries according to an aggregate measure, we give equal weight to each indicator. A country is awarded a point equal to its rank for each criterion (or indicator). I then sum the points for each indicator to obtain an aggregate score and that score is used to rank countries.¹¹ Table 4 gives the ranking for the greatest change in gender equity in well-being from 1970-2000.

(Table 4 about here).

No country does uniformly well in all categories. For example, in the case of Anglophone Caribbean, males are significantly less likely be unemployed than females, despite lower average levels of educational attainment.¹² There also is little uniformity in rankings within categories (i.e., health, education, and labor market variables), although rankings are most similar across health categories. (Thus, a country that ranks low in

gender equity in one of those categories has a similarly low ranking in the remaining two health categories as well).

El Salvador ranks highest in improvement in women's relative well-being, a notable feat since per capita GDP growth over this 30-year period averaged -0.25% a year, while Colombia is second. The performance of El Salvador and Colombia is surprising, given the long period of conflict these countries have undergone. War is often associated with declines in male share of the population and labor force, suggesting that these improvements may be due to downward harmonization rather than improvement in female well-being. On the other hand, war and conflict have been shown to have severely negative consequences for women in terms of violence, resulting in part from norms of hyper-masculinity that surge during such times (UNIFEM 2002). There are, however, indications that the driving force in the improved rankings of El Salvador and Colombia is improvements in female well-being. For example, in both countries, fertility declined by half and substantial improvements in female education absolutely as well as relatively were registered. Mexico ranks third, and this performance fits with the predictions of globalization proponents that liberalization is good for women.

The two countries with the highest per capita growth over this period—Chile and Dominican Republic—ranked among the lowest. Trinidad and Tobago, with a petroleum-based economy and therefore substantial government revenues for public investment, nevertheless ranks very low also. Some countries might rank low for change in gender gaps if they started at a very high level of gender equity, and thus had little distance to go to close gender gaps. Such is the case of Barbados, which ranks second for gender equity in well-being in 2000, and last in change in gender equity in well-being from 1970 to 2000.

I consider more formally the relationship between growth and well-being in the next section of the paper. Here, for illustrative purposes, I estimate the effect of growth on well-being, using a methodology similar to one used by the World Bank (2001), albeit with a more restricted sample. The Bank analysis is based on regressions of single indicators of well-being in 1995 (rather than a composite index) on the natural log of per capita GDP in 1995.¹³ They find that per capita GDP has a positive effect on gender equity in well-being. The Bank argues, on the basis of these results, that promotion of economic growth is a critical component of any program to reduce gender inequality. By

using per capita GDP in the end year of the analysis, the Bank's method fails to isolate the effects of the macroeconomic policies associated with globalization on well-being over the last 25 years. Those are precisely the policies of which many gender experts have been so critical for their negative effects on women's well-being.

In order to evaluate the impact of globalization policies, it would be necessary to isolate the effect of changes in per capita income during the relevant period. I do this by regressing Borda rankings for change in equity on total growth of per capita GDP for the period 1970-2000, controlling for initial per capita income (in 1970).¹⁴ Initial income has a positive effect on equity in well-being, implying that those countries with the largest gains in gender equity already had the highest per capita income by 1970. But, as the scatter plot in Figure 1 shows there is a negative association between GDP growth from 1970-2000 and equity. (That figure shows the partial correlation of equity with total per capita income growth from 1970 to 2000, with the trend line given by a LOESS fit). The coefficient on the growth variable is significant at the 5 percent level, suggesting that improvements in women's well-being during this period, where they did occur, were due to factors other than globalization-induced growth. These results may not be surprising since 5 out of the 10 highest ranked countries in Table 4 peaked in terms of per capita GDP during the 1970s or earlier.

(Figure 1 about here).

In reality and in contrast to the Bank's claims, economic growth in the current environment of liberalization can produce contradictory gender effects. Structural change induced by growth may generate employment, thus increasing women's access to private sources of income. But state-distributed resources may decline with pressure on public sector budgets. Women's increased employment, even if due to distress sales of labor and despite the insecurity of work, may improve their status within the household. This might occur if they are perceived to have a more important role in providing household income, whether because their access to work has increased or because men's has declined. But the shift in bargaining power within the household may also stimulate a backlash against females that shows up in other ways, such as family dissolution or violence against women. While micro level analyses are needed to assess the household level effects of such policies, in the next section, I attempt to disentangle these various macro-level factors that influence well-being.

V. PANEL DATA RESULTS

In this section, I assess the determinants of gender equity in well-being across countries over time. I use individual indicators as dependent variables for the panel data analysis for several reasons. While a composite index is useful for ranking countries according to well-being, the variance of the dependent variable is artificially constrained by the range of ranks. Second, independent variables may operate on individual measures of well-being differently (see, for example, Richards, Delleny, and Sweeney 2002; Mason and Smith 2003). Finally, missing data makes computation of a time-series composite index unreliable.

A. Variables

The dependent variables used in the regressions are: female to male population ratio, ratio of female to male secondary school enrollment, and relative female to male mortality rates. The choice of these individual measures can be explained as follows. If we were to choose a single measure of gendered differences in quality of life, a good proxy is the female to male population ratio. Decisions to invest in female children's nutrition, health care, and even seeing a pregnancy through when the fetus is known to be female, reflects society's valuation of females. Social perceptions aside, improvements in women's access to power and material resources enable them to invest more in their daughters' health and nutrition, and to avoid sex-selective abortions or infanticide that favors males. In LAC, a decline in F/M population ratios can also be due to female-intensive out-migration, rather than a reduction in life chances. The lack of employment opportunities to sustain self and families that this implies, however, is in itself an important indicator of female relative well-being. More generally, then the F/M population ratio can be seen as a proxy measure of gender well-being, but does not reveal the precise processes that contribute to changes in gender gaps.

I explore growth effects on gross secondary school enrollment rates, a measure that can be considered a flow variable, as noted—it reflects current gender norms and stereotypes as well as bargaining power, in contrast to measures of total educational attainment, which summarizes current and past discrimination. Finally, I test for determinants of relative female to male mortality rates (relative, that is, to the ratio in the reference country, Sweden. See Appendix A for more details on this variable). This variable may capture differences in women and men's access to income and other

resources that can sustain health. The gap could also vary across countries and over time, in response to changes in the adequacy of a country's health care system and infrastructure that insure, for example, clean water and protection from infectious diseases. It may thus also be influenced by a country's stage of development, in addition to gender gaps in income and empowerment.

From the previous discussion, right-hand side variables fall into four categories: 1) economic growth, 2) economic structure, 3) government spending, and 4) women's empowerment. I turn first to a discussion of the independent variables. (All regression variables and codes are listed in Table 5).¹⁵

1) Economic Growth

Economic growth is measured as average annual GDP growth from 1970 to 2000. There may be reason to be concerned that economic growth is not truly exogenous, if equity influences growth. I therefore also run regressions with investment growth and export growth, two variables causally linked to growth in the literature.

2) Economic Structure

I test for the effects of economic structure by including as regressor manufacturing value-added as a percentage of GDP. The expansion of manufacturing as a share of GDP, particularly light-manufacturing, is linked to improvement in women's job access. Countries specializing in manufactured exports for which terms of trade are declining, however, may find that specialization in this area yields few if any benefits for well-being. This is an especially salient issue for developing countries, since there is evidence that light-manufacturing expansion among semi-industrialized economies has also led to a process of immiserizing growth (Erturk 2001-02). Whether this differentially impacts women depends on how the effects of declining terms of trade are distributed. If it leads to greater stresses on females as a result of deterioration of work conditions due to competitive pressures, then gender effects may be apparent. Services value-added as a share of GDP is also used to capture structural change. Finally, trade as a share of GDP is used as an additional economic structure variable. Gender effects are ambiguous. Women are the target labor supply for labor-intensive industries, but mobility of firms holds down compensation.

3) Government Expenditures

Government spending can act as a redistributive mechanism such that women's relative well-being is enhanced by increases in social expenditures. Whether such spending is gender-equitable is an empirical question, since governments may allocate spending in such a way that reinforces rather than rectifies gender imbalances in well-being. To capture this effect, I use the growth rate of government consumption, adjusted for inflation. The government consumption variable is imprecise since it includes a variety of other expenditures unrelated to well-being. Data on measures such as public health and education spending are incomplete, however, and thus I am forced to rely on government spending in the aggregate. In addition, I include measures of debt as a percentage of exports which may affect expenditures on public goods that can affect women's relative well-being and may thus also attenuate the benefits of export earnings for the domestic economy.

4) Empowerment

Finally, as an empowerment variable, I use female share of the labor force. This variable represents a means to well-being as well as an end (insofar as access to work may improve the quality of life intrinsically), since it reflects female access to income that can increase household bargaining power. As noted, even unpaid work may improve women's value to the household and thus status, allowing them to leverage more resources for female family members. Female share of employment would have been preferred as a variable here, but it could not be used due to a large number of missing values.

These categories of right-hand side variables listed above represent the diverse avenues through which female well-being may improve. The growth variable reflects the effect of total expansion of resources, while economic structure, government resources, and female empowerment may have redistributive effects. Of the three redistributive effects, the first occurs as a result of the interaction of economic structural change with labor markets, mediated by gendered job access. The second reflects government policy. (While government policy is itself likely to be influenced by female political representation, political empowerment measures are not available for time-series analysis). Finally, the third represents the effect of greater female bargaining power that results from the effect of labor market access on distribution within the household.

(Table 5 about here).

B. Data and Estimation

Regressions are estimated using a two-way error components model. The basic model can be summarized as:

$$Y_{it} = \alpha + X_{it}\beta + v_{it}$$

where the error term v_{it} has three components:

$$v_{it} = \mu_i + \lambda_t + \varepsilon_{it}.$$

Here μ_i captures the country specific-effects while λ_t represents time-varying effects. Country (fixed) effects control for unobserved time-invariant differences that might affect the gender well-being variable.

Various econometric issues need to be considered. First, one may expect measurement errors due to inaccuracies in schooling, labor force participation, as well as in some macroeconomic variables, leading to large standard errors, and thus a downward bias on t-statistics. This may not necessarily lead to misleading econometric results, provided that the biases are constant over time and the errors are random. In addition, the use of pooled time-series data, which yields a large number of observations, permits behavioral relationships to be detected, even though non-trivial random errors in the data may exist.

Second, data must be stationary in order for standard inference procedures to apply in time-series analysis. To check for stationarity, unit root tests were conducted. Those variables that were found to be non-stationary were first-differenced, resulting in stationary series. Variables so-adjusted are preceded by a difference operator in the reported regression results.

Heteroskedasticity problems are frequently encountered with cross-sectional data, and therefore regressions use GLS, with cross-sectional weights derived from the residual cross-sectional standard deviations. While this procedure corrects for heteroskedasticity across countries, a more general form is necessary to allow variances within a cross section to vary over time. This was done by obtaining standard errors in accordance with White's variance-covariance matrix in all regressions. I also corrected for autocorrelation,

where necessary, using an autoregressive process modeled as an AR(1) with a common country coefficient.

Some right-hand side variables are potentially endogenous. In particular, the growth rate of GDP may be simultaneously determined by the gender variables.¹⁶ This is less likely to be an issue with the schooling measure used here, but it may be relevant for the population ratio and mortality ratio. To check for this, Hausmann tests were run with the results indicating no evidence of endogeneity for per capita GDP growth.¹⁷ In addition, I ran a set of regressions, proxying for GDP growth with the growth rate of gross fixed capital formation and export growth. The literature suggests these variables are correlated with GDP growth, but not with the dependent variables (There is, however, some dispute about the effect of exports on growth. See, for example, Rodriquez and Rodrik 2001).

Finally, these regressions use unbalanced panels, due to the variations in data availability. Thus, the inclusion or exclusion of certain variables causes the sample size to change. This does not present any econometric problems, and may be viewed as a test of robustness of the independent variables. In this analysis, however, some variables have missing data for all countries for the 1970s and 1980s, for example, and thus inclusion of those variables causes the period of analysis to change. In those cases, the results are not strictly comparable to regressions where variables span the entire period—1970-2000.

C. Results

Regression results from estimating the determinants of the female to male population ratio (*FMPOP*) are given in Table 6. The lagged value of $d(FMPOP)$ is used to capture prior differences in across countries, with the coefficient measuring adjustments to the *FMPOP*, assuming no differences in the remaining independent variables, and $d(\cdot)$ is the difference operator. Equation 1 shows that economic growth (*GR*) has a significant negative effect on *FMPOP*. Structural change variables—manufacturing and service value-added as share of GDP (*MFGVA* and *SERVVA*)—are significant, and suggest a positive effect on gender equity. Trade as a share of GDP (*TRADE*) and debt as a percentage of exports (*DEBTX*) are insignificant, however. The female share of the labor force (*FSHLF*) is positive but insignificant, and this may suggest that female-intensive employment effects of structural change are captured by *MFGVA* and *SERVVA*. The coefficient on growth rate of government consumption

(*GRGOV*) is positive and significant. (We should not read much into the high R^2 since the lagged dependent variable is likely the cause).

Equation 2 proxies for economic growth with the growth rate of gross fixed capital formation (*INVGR*) and the growth rate of exports of goods and services (*XGR*). Neither of these variables is significant, and they have opposite signs. *MFGVA* continues to be positive and significant, along with the growth rate of government consumption, while the positive coefficient on female share of the labor force becomes significant in this regression

(Table 6 about here).

Table 7 presents the results of regressing the change in the ratio of female to male gross secondary school enrollment rates on the same set of independent variables. Here, in equation 1, the coefficient on economic growth is insignificant, while *MFGVA* is positive and significant. Trade as a share of GDP is negative and significant, while the remaining variables are insignificant. The adjusted R^2 of these regressions falls dramatically. These results suggest multiple contradictory processes at work.

Interestingly, the growth of government expenditures has no effect on gender equity in education, suggesting that public spending on education has not contributed to a closure of gender gaps. But the shift to manufacturing has had a positive effect, and may well be related to incentives to invest in female education as a result of women's expanded work opportunities. (It could also signify that when women gain access to employment, they are able to leverage more gender equitable education spending). On the other hand, trade has a negative effect on education. The pathway by which trade negatively affects female education is not revealed in this analysis, and requires country-level case studies to answer that question. As the gender and trade literature suggests however, it could be related to the effect of higher cost imports (from devaluation) that reduces household income available for education expenditures, with girls more disadvantaged than boys.

Equation 2 shows that investment growth has a positive effect on female relative education, while export growth exerts a negative significant effect. It is not clear why these variables would operate in opposite directions, unless in fact declining terms of trade or instability of export earnings produce negative gender effects. Nevertheless, the sum of these coefficients is roughly zero, suggesting that the net effect on education is

small (a Wald test confirms that the sum of these coefficient is not significantly different from zero). The structural change variables retain their significance in this equation, again with the exception that *SERVVA* becomes positive and significant.

Table 8 presents results on the determinants of relative female to male mortality. A positive sign on coefficients indicates that increases in the independent variables contribute to higher female mortality relative to males—thus a deterioration of gender equity in well-being. The first equation shows a positive significant effect of growth on women’s relative mortality (relative to men’s and relative to the reference country ratio). Increases in the debt ratio raise female relative mortality rates, while female share of the labor force and the growth rate of government expenditures have significant negative effects. These results should be viewed with some caution since, as the Breusch-Godfrey test shows, autocorrelation is present, and could not be eliminated with standard techniques. Equation 2 results show that the growth variables have an insignificant effect, while *SERVVA* and *DEBTX* exhibit positive effects which are significant. At the same time, *FSHLF* and *GRGOV* retain their negative significant effect.

The contradictory effect of *SERVVA* as compared to *FSHLF* is difficult to explain, but may be due to collinearity of these variables if indeed structural shift partially induces female entrance into paid labor force. (Re-estimation of these equations with *MFGVA* *SERVVA*, dropping *FSHLF*, results in positive but insignificant coefficients on these variables).

(Table 8 about here).

VI. DISCUSSION OF RESULTS

Table 9 summarizes results from the panel data estimations. Four variables have positive effects on gender equity in well-being (with varying degrees of robustness): manufacturing and service value-added as a share of GDP, female share of the labor force, and the growth rate of government consumption. The positive effect of the shift to manufacturing is noteworthy, and this may occur via the impact on the relative demand for female labor. Despite the fact that female share of the labor force includes both employed and unemployed women, as well as paid and unpaid work, it is clear from these results that women’s economic activity improves their well-being. Whether due to the bargaining power that this confers on women to negotiate with male members of the

family, or because women directly generate income, the effect is positive and significant in most cases here.

(Table 9 about here).

The remaining variables do not have a consistently positive or negative effect on gender equity in well-being, with the exception of economic growth to which I now turn. These results show a negative effect of economic growth on F/M population ratios and a positive effect on F/M mortality (and no effect on gender gaps in education). These results are consistent with those for several Asian economies, where growth was also found to have a negative (but statistically insignificant) effect on female relative population ratios (Seguino 2002). The evidence for Asia is consistent with research showing that inequality is lower among poorer income households in that region (Murthi, Guio, and Drèze 1995), while higher *FMPOP* ratios go hand-in-hand with higher levels of poverty (Drèze and Sen 1995). One reason advanced to explain why female relative well-being may decline as incomes rise is the ‘emulation’ effect, explained as follows. In low-income households, women’s labor is crucial for family survival, especially in agricultural households. But as incomes rise, poor classes seek to emulate wealthier ones that limit women’s economic activity (despite women’s high levels of education). The practice of circumscribing women’s activities enhances the patriarch’s social status since it acts as an indicator of the male head of household’s wealth. The result for women, however, is that their bargaining power decreases.

Latin America and the Caribbean, however, are influenced not only by differing economic structures, but also by very diverse sets of gender norms and stereotypes. In Anglophone Caribbean, women have more freedom to participate in labor markets, although this is less the case in Central America (see, for example, Fleck 1996). Nevertheless, seclusion is not practiced in the Americas and thus higher income is less likely to induce this “emulation effect.” If not, a different explanation has to be sought for why growth does not improve gender equity in well-being.

The answer may be found in the type of growth, or the characteristics of the growth process. If growth results in increased economic insecurity and job “flexibility,” due to the process of globalization that makes capital more mobile, women may differentially bear the costs of economic insecurity, which may be driving the results found here for population ratios. In the Caribbean, for example, one result of economic

insecurity has been out-migration, with women more likely to emigrate than men. Further, if women are more likely to get the insecure jobs or bear the burden of government expenditures that reduce social services, then improvements in female relative well-being are likely to be stymied, even with growth.

The inability for growth to improve women's relative well-being may also be due to a "backlash" against women of downward harmonization as a result of a deterioration of men's economic status. Much of the research on this region in recent years indicates that women have entered the labor force at least in part in response to declining incomes and employment of male household members. The erosion of men's well-being and income generating opportunities may contribute to higher rates of domestic violence, as men's traditional role as breadwinner is comprised, leading to a "crisis of masculinity" (Chant 2000). Thus, men's inability to fulfill norms of masculinity may have produced negative reactions to women that have redounded negatively on F/M population ratios and relative mortality rates.

There is some evidence consistent with this explanation. For example, Soledad Larraín (1998) notes that Latin America and the Caribbean, the part of the world with the least equitable distribution of wealth, is also one of the areas with the highest rates of violence in the home.¹⁸ Larraín argues that unequal income distribution is one of the chief factors fuelling the rise in domestic violence in Latin America and the Caribbean.¹⁹ Gatti (1998) reports on research conducted by the IDB which shows that women who work outside of their homes and earn their own incomes are less likely to be beaten, and have greater possibilities of escaping the situation by separating from their partners.²⁰ Of course, one of the problems observed is that the jobs that many women can get in export industries or informal sector jobs make it difficult to bargain for higher wages, and thus, their employment may both put them in danger of backlash at home, and leave them unable to escape due to low wages.²¹

Negative effects of men's declining economic fortunes may also put pressure on family structures in a way that increases women's labor burdens. Based on research in rural Costa Rica, Chant (2000) finds that men's declining economic opportunities lead to family dissolution, as echoed by Martín, a 30 year old bricklayer, who participated in a focus group session: "*La mujer que tiene su propia plata pierde el cariño para el esposo. Muchos matrimonios han fracasado por eso*" ("A woman who has her own money loses

affection for her husband. Many marriages have been ruined because of this”). According to Chant, men’s inability to provide can set in motion a vicious circle whereby men abandon their responsibilities and women increase labor effort to fill the gap.

VII. CONCLUSION

In this paper, I develop a set of indicators to track trends in gender equity in well-being over the period 1970 to 2000 for Latin America and the Caribbean. Using a composite index based on these indicators, I rank countries according to equity in well-being in 2000 and change in gender equity over the past 30 years. The data show that gender equity in well-being has improved but not unambiguously so. Several countries have experienced declines in individual indicators of well-being, and there is a significant worsening of women’s experience of unemployment relative to men’s. Growth since 1970 is not shown to improve gender equity, measured using a composite index.

In panel data estimations, economic growth exhibits a negative effect on female to male population ratios and a positive effect on relative female to male mortality rates, while manufacturing and service value-added as a share of GDP are positively correlated with improvements in women’s relative well-being as are government consumption growth and to a lesser extent, female share of the labor force are notable.

Economic growth under liberalized conditions appears to have contradictory, and in some cases, worryingly negative gender effects. Unraveling those contradictions is a complex task, and country-specific conditions probably play an important role, making it impossible to generalize about the precise dynamics at play. That said, it appears that macroeconomic, trade, and finance policies in the last 30 years have contributed to the growth of insecure employment. Men have also been negatively affected, and women have responded by trying to cushion adverse effects on household income by increasing paid labor time. Many who have gained access to employment have done so primarily in insecure positions and frequently in the informal economy. The social insurance necessary to cushion that increased vulnerability in markets is not forthcoming, due to limits on the ability of the state to provide a social safety net.

While this paper attempts to provide a panoramic view of progress in achieving equity in well-being, there are limitations to this exercise that must be acknowledged. Gender-disaggregated data are still in short supply, and many of our measures are only

proxies. Second, the most serious weakness of this paper, in my view, is the lack of detail on the effect of ethnicity on gender equity. In fact, it is possible, that gender inequity varies by ethnicity, with subaltern women bearing the greatest burden of inequality. I am, however, constrained by lack of country-level data to assess this, and it thus remains the object of future work.

This brings me to my last point, which is that a study such as this allows us to see broad trends and consider the role of macroeconomic policy, but a deeper understanding of causality and connections is usefully gained at the country level. A case-study approach could give us some insight into why growth, for example, appears to have no discernible effect on secondary schooling equity, but has a negative effect on female to male population ratios. Such studies would also be able to illuminate more fully the types of government expenditures that are gender-enabling and the processes that have led to such redistributive policies. Finally, the connective tissue in these relationships is political, economic, and social institutions which vary across countries, and to fully understand trends, we also need to know how they are supporting or impeding change.

NOTES

¹ Gender well-being is measured as gross secondary school enrollment ratios in both studies and society's resources are measured as per capita income. Additional control variables are incorporated into the analyses, including measures of civil freedoms and culture (e.g., religious preference).

² See, for example, Amsden (1998) and Chang (2002) on the role of the state, and Seguino and Grown (2003) on these issues as regards gender equality.

³ On the gender effects, see, for example Benería (2001), Sayeed and Balakrishnan (2002), and Balakrishnan (2002). On wage-led and profit-led growth, see Bhaduri and Marglin (1990), and for the relationship between income distribution, gender and growth, see Blecker and Seguino (2002).

⁴ An example of this is the expansion of data processing in Jamaica and Barbados, as well as the growth of call centers in India.

⁵ In LAC, Barbados has been in the forefront of these initiatives, and St. Kitts and Nevis and Trinidad and Tobago have also begun or are beginning to develop the methodologies to conduct such audits.

⁶ It could be argued, in response, that growth can enlarge the economic pie, making redistributive policies less gender-conflictive. The importance of that would depend on country-specific institutional arrangements that mediate conflict. In some cases, where such arrangements do not exist, male backlash in response to redistributive policies that favor women can be socially disruptive.

⁷ Measures of HIV/AIDs incidence and maternal mortality are also useful indicators. They are not part of the analysis presented here, since accuracy of data on AIDs is questionable. I nevertheless did include these variables in well-being ranking for 2000 (results not reported here), and the rankings remained consistent to those without the additional indicators.

⁸ For critiques of the GDI and GEM, see Bardhan and Klasen (1999), Oudhof (2001), Dijkstra (2002), and Elson (2002).

⁹ Alternatively, one could simply substitute missing values with the mean for the non-missing observations. That method, however, has several limitations, including underestimation of the variance, and distortion of the shape of the distribution. In this case, the missing data estimation is more efficient because there are very few missing variables and a greater amount of available information is used.

¹⁰ In the case of the Caribbean, men's lower educational achievement appears to be related to higher male drop-out rates, as men leave school to engage lucrative income-earning (sometimes illegal) activities that do not require higher education. I cannot explain the relative higher female educational attainment in several of the Spanish-speaking countries in the sample.

¹¹ Thus, in our case, with 9 indicators and 21 countries, country A is awarded points between 1 (lowest achievement) and 21 (highest achievement) for each of 9 criteria. These are summed to provide the aggregate score (maximum = 189, minimum = 9), which is then used to rank countries on gender equality in well-being.

¹² Note also that the Borda ranks on youth illiteracy are also low for these countries. Given very low illiteracy rates in these countries (1-4 percent), the male to female ratios of illiteracy rates may not provide a great deal of information on gender equity.

¹³ The World Bank study uses several measures of well-being that differ from those used here—e.g., life

expectancy and primary school enrollment.

¹⁴ The Bank's analysis also controls for gender equality in rights, using the Humana Index. That index is, however, outdated and is also very obscure in how gender equality is being measured, and so I do not include it here.

¹⁵ See Table B.2 for sources of gender well-being data. All macroeconomic data listed in Table 5 are from World Development Indicators.

¹⁶ Several studies make this link including Hill and King (1995), Dollar and Gatti (1999), and Seguino (2000a and 2000b), although using varying gender equity measures.

¹⁷ This was done by regressing the gender variable on all independent variables (the "constrained" model). The "suspect" variable (GDP growth) was then regressed on all exogenous variables. The resulting fitted values were then added to the constrained model. T-tests of the significance of that variable did not support the hypothesis of endogeneity of the growth variable.

¹⁸ There is also evidence of a dramatic increase in other forms of violence in the region since the 1970s, including homicides (Buvinic, Morrison, and Shifter 1999).

¹⁹ Violence against women may not be exclusively domestic. For example, the spate of unsolved murders of approximately 370 women—many of whom were workers in the *maquila* industry—in Ciudad Juarez, Mexico over the past decade points to the insecurity of women's lives (Amnesty International 2004). These deaths may reflect a broader male hostility towards women (also evident in the failure of the police to take meaningful steps to solve the murders), possibly attributable to women's increased visibility in the work arena that is perceived to be in competition with men's job opportunities.

²⁰ The IDB research also notes that the incidence of domestic violence is high: one out of every four Latin American and Caribbean women have been the victims of physical abuse at home, while 60 to 85 percent had been subjected to some degree of psychological violence (Gatti 1998).

²¹ There is evidence of this behavior from other parts of the world as well. For example, Pepall (1998) found that, among female borrowers in Bangladesh, a majority reported an increase in verbal and physical aggression from male relatives after taking out loans.

Table 1. Gender Well-Being Indicators for Latin America and the Caribbean, 2000

Country	F/M Pop- ulation	F/M Mortality (rel. to Sweden)	Fertility	F/M Secondary School Enrollment rates	F/M Youth Illiteracy Rate	F/M Total Avg. Yrs. Education	Female Share of Labor Force	Female Share of Total Employ- ment	Ratio F/M Unemploy- ment Rates
Argentina	1.04	0.81	2.51	1.08	0.71	1.02	32.7	40.0	1.16
Bahamas	1.03	0.70	2.19	1.00	0.45	1.10	47.2	48.4	1.61
Barbados	1.07	0.93	1.75	1.05	0.87	0.98	46.2	46.5	1.71
Belize	0.98	1.03	3.13	1.15	0.48	0.90	23.9	31.0	1.87
Bolivia	1.01	1.35	3.93	0.87	3.15	0.85	37.7	44.0	1.37
Brazil	1.02	0.88	2.20	1.17	0.61	0.82	35.4	40.3	1.61
Chile	1.02	0.88	2.16	1.02	0.64	0.99	33.2	33.3	1.26
Colombia	1.02	0.91	2.55	1.11	0.65	1.17	38.4	44.7	1.35
Costa Rica	1.00	0.98	2.50	1.12	0.70	0.99	30.8	32.3	1.67
Dominican Republic	0.97	1.03	2.71	1.19	0.84	1.03	30.4	28.7	3.01
Ecuador	0.99	1.08	3.03	1.04	1.20	1.00	27.7	38.7	1.81
El Salvador	1.04	0.94	3.10	0.99	1.15	0.98	36.0	40.7	0.54
Honduras	0.99	1.01	3.92	1.23	0.87	0.71	31.4	36.0	1.03
Jamaica	1.02	1.09	2.46	1.04	0.27	1.15	46.2	42.0	2.23
Mexico	1.05	0.99	2.59	1.03	1.35	0.91	32.9	33.3	1.47
Panama	0.98	0.99	2.50	1.07	1.29	0.99	35.0	33.6	1.90
Paraguay	0.98	1.05	2.50	1.05	1.03	0.97	29.8	42.5	1.10
Peru	1.02	1.11	2.78	0.94	2.61	0.88	31.0	44.8	1.15
Trinidad & Tobago	1.00	1.19	1.75	1.08	1.22	1.06	34.0	36.6	1.54
Uruguay	1.06	0.72	2.23	1.33	0.56	1.09	41.5	42.4	1.68
Venezuela	0.99	0.92	2.82	1.41	0.48	1.04	34.5	35.4	1.35

Table 2. Correlation Matrix, Gender Well-Being Measurers for LAC, 2000

	F/M Population	Relative F/M Mortality	Fertility	F/M Secondary School Enrollment Rates	F/M Youth Illiteracy Rate	F/M Total Avg. Yrs. Education	Female Share of Labor Force	Female Share of Total Employ- ment	Ratio F/M Unemployment Rates
F/M Population	1.00	-0.44	-0.41	-0.19	-0.04	0.19	0.64	0.57	-0.30
Relative F/M Mortality		1.00	0.44	-0.42	0.69	-0.31	-0.32	-0.14	0.08
Fertility			1.00	-0.07	0.44	-0.56	-0.39	-0.14	-0.22
F/M Secondary School Enrollment Rates				1.00	-0.60	-0.09	-0.11	-0.36	0.20
F/M Youth Illiteracy Rate					1.00	-0.43	-0.16	0.21	0.24
F/M Total Avg. Yrs. Education						1.00	0.45	0.20	0.30
Female Share of Labor Force							1.00	0.66	0.06
Female Share of Total Employment								1.00	-0.36
Ratio F/M Unemployment Rates									1.00

Table 3. Change in Gender Well-Being in LAC, 1970-2000

	F/M Pop- ulation	Relative F/M Mortality	Fertility	F/M Secondary School Enroll- ment rates	F/M Youth Illiteracy Rate	F/M Total Avg. Yrs. Education	Female Share of Labor Force	Female Share of Total Employ- ment	Ratio F/M Unemploy- ment Rate
Argentina	0.05	-0.10	0.60	-0.06	-0.20	0.06	7.84	6.25	-0.30
Bahamas	0.01	-0.30	1.26	-0.10	-0.26	0.10	7.16	6.24	-0.90
Barbados	-0.06	-0.12	1.27	0.03	0.11	-0.04	6.02	2.28	0.06
Belize	-0.03	-0.08	3.76	-0.08	-0.72	-0.08	3.16	-0.24	0.29
Bolivia	-0.02	0.13	2.59	0.15	0.43	0.18	5.90	1.58	0.35
Brazil	0.02	-0.38	2.79	0.14	-0.49	-0.08	11.74	9.04	0.66
Chile	-0.01	-0.11	1.79	-0.13	-0.41	0.03	10.84	3.87	-0.17
Colombia	0.01	-0.42	2.92	0.14	-0.38	0.28	14.24	6.41	-0.06
Costa Rica	0.01	-0.24	2.44	0.05	-0.27	0.00	12.70	8.00	-0.45
Dominican Rep.	0.00	-0.28	3.34	-0.11	-0.20	0.08	8.24	0.10	0.36
Ecuador	0.00	-0.27	3.17	0.19	-0.30	0.09	9.18	1.23	-0.19
El Salvador	0.05	-0.31	3.21	0.08	-0.20	0.32	15.42	7.51	-1.42
Honduras	0.00	-0.31	3.28	0.33	-0.19	-0.20	9.10	-6.28	-0.14
Jamaica	-0.03	-0.11	2.85	0.05	-0.30	0.04	3.20	2.78	-0.53
Mexico	0.05	-0.29	4.05	0.39	-0.21	0.27	13.80	2.32	-0.33
Panama	0.02	-0.40	2.70	-0.05	0.13	0.00	9.82	4.77	0.48
Paraguay	-0.04	-0.20	3.41	0.02	-0.37	0.10	3.40	2.13	-0.51
Peru	0.03	-0.25	3.44	0.17	-0.34	0.16	8.66	3.89	-0.09
Trinidad & Tobago	-0.02	-0.12	1.84	0.01	-0.61	0.11	4.50	6.29	-0.26
Uruguay	0.05	-0.18	0.69	0.15	-0.05	0.04	15.24	3.45	0.04
Venezuela	0.01	-0.22	2.50	0.35	-0.65	0.04	13.96	7.48	0.49
Average Change									
Unweighted	0.005	-0.22	2.57	0.08	-0.26	0.07	9.24	3.77	-0.12
Weighted	0.024	-0.30	2.89	0.18	-0.35	0.08	11.64	5.73	0.13

Note: Fertility is measured as declines. Thus, for Argentina, female fertility fell 0.60. Average change refers to sample average changes in well-being. Bold italicized print in the last two rows indicates categories for which average change is statistically significant at the 5% level.

Table 4. Ranking for Change in Gender Equity in Well-Being, LAC 1970-2000

Borda Ranking (1=Greatest Positive Change in Gender Well- being)	Country	F/M Pop- ulation	Relative F/M Mortality	Fertility	F/M Secondary School Enroll- ment rates	F/M Youth Illiteracy Rate	F/M Total Avg. Yrs. Education	Female Share of Labor Force	Female Share of Total Employ- ment	Ratio F/M Unemploy- ment Rates	Total Borda Points
1	El Salvador	20	16	15	12	6	21	21	19	21	151
2	Colombia	11	20	13	14	15	20	19	17	9	138
3	Mexico	19	15	21	15	5	19	17	8	17	136
4	Venezuela	12	13	8	20	19	10	18	18	2	120
5	Peru	17	9	19	17	4	17	10	12	11	116
6	Brazil	15	19	11	13	18	2	15	21	1	115
7	Costa Rica	14	11	7	10	14	5	16	20	16	113
8	Uruguay	21	17	2	16	8	8	20	10	8	110
9	Bahamas	13	13	3	3	17	14	7	14	19	103
10	Ecuador	10	10	14	18	7	13	12	4	10	98
11	Argentina	18	7	1	5	13	11	8	15	18	96
12	Honduras	8	14	16	19	9	1	11	1	15	94
13	Paraguay	2	8	18	8	11	15	3	6	20	91
14	Panama	16	18	10	6	2	6	13	13	4	88
15	Jamaica	3	4	12	11	21	9	2	9	12	83
16	Trinidad & Tobago	5	3	6	7	12	16	4	16	13	82
17	Chile	7	5	5	1	16	7	14	11	14	80
17	Dominican Rep.	9	12	17	2	10	12	9	3	6	80
19	Bolivia	6	1	9	15	3	18	5	5	3	65
20	Belize	4	2	20	4	20	3	1	2	5	61
21	Barbados	1	6	4	9	1	4	6	7	7	45

Table 5. Regression Variable Codes and Definitions

Regression Variable Codes	Description of Variable
DEBTX	Total debt service as % of exports
FMPOP	Ratio of females to males in population
FSHLF	Female share of labor force
GR	Growth rate of per capita GDP in \$1995
GRGOV	Growth rate of total (real) government expenditures
INVGR	Growth rate of gross fixed capital formation
MFGVA	Manufacturing value-added as % of GDP (Annual growth rate for manufacturing value added based on constant local currency)
RELMORT	Male to female mortality rates, relative to reference population (Sweden)
RSENROLL	Ratio of female to male gross secondary school enrollment
SERVVA	Services value-added as % of GDP (Annual growth rate for services value added based on constant local currency)
TRADE	Sum of exports and imports of goods and services measured as a share of GDP
XGR	Annual growth rate of exports of goods and services based on constant local currency

Table 6. Panel Data Results, LAC, 1970-2000
Fixed Effects, GLS

Dependent Variable: d(F/M Population Ratio)

	Eq. 1	Eq. 2
d(FMPOP(-1))	0.958 (59.54)***	0.962 (55.66)***
GR	-0.001 (2.585)***	
INVGR		0.001 (0.87)
XGR		-0.001 (0.67)
d(MFGVA)	0.051 (2.50)**	0.023 (2.51)***
d(SERVVA)	0.022 (1.92)**	0.011 (1.04)
d(TRADE)	0.003 (0.27)	-0.001 (0.26)
d(DEBTX)	-0.002 (0.43)	-0.02 (0.28)
d(FSHLF)	0.441 (1.57)	0.470 (1.68)*
GRGOV	0.034 (6.45)***	0.034 (6.42)***
N	332	319
Adj. R ²	0.953	0.950
Breusch-Godfrey	0.854 (p=.43)	1.392 (p=.25)

Note: T-statistics are in parentheses. A triple asterisk (***) indicates $p < 0.01$, a double asterisk (**) $p < 0.05$, and a single asterisk (*) $p < 0.10$.

Table 7. Panel Data Results, LAC, 1970-2000
Fixed Effects, GLS

Dependent Variable: d(Ratio F/M Gross Secondary School Enrollment Rates)

	Eq. 1	Eq. 2
d(RSENROLL(-1))	0.081 (0.47)	0.079 (0.69)
GR	0.0002 (0.97)	
INVGR		0.0003 (2.84)***
XGR		-0.0007 (2.12)**
d(MFGVA)	0.081 (4.34)***	0.072 (3.15)***
d(SERVVA)	0.018 (0.14)	0.034 (2.26)**
d(TRADE)	-0.001 (3.14)***	-0.0001 (1.61)*
d(DEBTX)	-0.010 (1.06)	-0.011 (1.30)
d(FSHLF)	0.013 (0.03)	0.005 (0.12)
GRGOV	-0.001 (0.59)	0.002 (0.65)
N	313	299
Adj. R ²	0.106	0.166
Breusch-Godfrey	1.006 (p=.37)	1.169 (p=.31)

Note: T-statistics are in parentheses. A triple asterisk (***) indicates $p < 0.01$, a double asterisk (**) $p < 0.05$, and a single asterisk (*) $p < 0.10$.

Table 8. Panel Data Results, LAC, 1970-2000
Fixed Effects, GLS

Dependent Variable: (F/M Adult Mortality Rates relative to Swedish Ratio)

	Eq. 1	Eq. 2
d(RELMORT(-1))	0.763 (14.46)***	0.749 (12.12)***
GR	0.0001 (6.64)***	
INVGR		0.001 (0.98)
XGR		0.001 (0.90)
d(MFGVA)	-0.011 (1.59)	0.004 (0.74)
d(SERVVA)	0.005 (0.38)	0.017 (3.32)***
d(TRADE)	0.001 (0.26)	-0.0002 (0.07)
d(DEBTX)	0.003 (4.84)***	0.002 (2.74)***
d(FSHLF)	-0.126 (1.99)**	-0.180 (2.47)**
GRGOV	-0.002 (2.91)***	-0.002 (2.29)**
N	335	321
Adj. R ²	0.792	0.766
Breusch-Godfrey	2.561 (p =.04)	0.764 (p=.57)

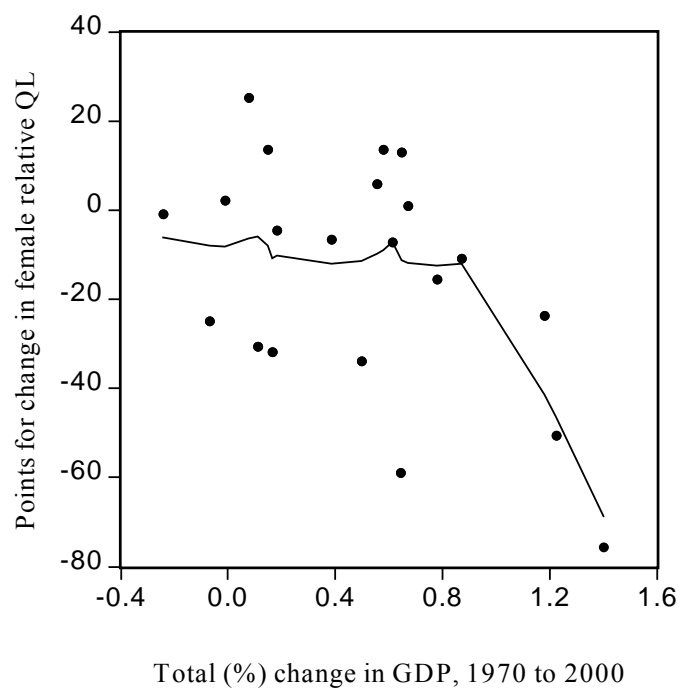
Note: T-statistics are in parentheses. A triple asterisk (***) indicates $p < 0.01$, a double asterisk (**) $p < 0.05$, and a single asterisk (*) $p < 0.10$.

Table 9.-Summary of Regression Results

	FMPOP		RSENROLL		F/M RELMORT	
	Eq.1	Eq.2	Eq.1	Eq.2	Eq.1	Eq.2
GR	—*		+		+	
INVGR		+		+		+
XGR		—		—*		+
MFGVA	+	+	+	+	—	+
SERVVA	+	+	+	+	—	+
TRADE	+	—	—	—*	—	—
DEBTX	—	—	—	—	+	+
FSHLF	+	+	+	+	—*	—*
GRGOV	+	+	—	+	—*	—*

Note: * indicates significance at the 10 percent level or better.

Figure 1. Partial Correlation between Change in Female Relative Well-Being and Growth GDP, 1970-2000



Note: Nearest neighbor (LOESS) fit (degree = 1.0, span=0.4).

APPENDIX A

Indicators of Gender Equity in Well-Being

In the selection of these indicators, I make a distinction between flow variables and stock variables. The former represent a snapshot at a moment in time of gender relative well-being, while the stock variables are measures that represent the cumulative effect of gender bias in well-being. (All indicators are measured so that a positive value indicates an increase in gender equity).

1) Health Indicators

The Ratio of Females to Males in the Population

I rely on the number of females per 100 males in the population as an indicator of health as well as female social status, following Saith and Harriss-White (1999) and others.¹ This can be considered a stock variable (rather than a flow) since it summarizes cumulative gender inequality as it has operated over a long period of time. In 2000, the ratio of females to males globally ranged from a low of 52 (United Arab Emirates) to a high of 117 (Latvia), with a global unweighted mean of 101.2.² The causes for this variation are complex and include both biological and social determinants. In general, women's natural advantage in longevity is offset to varying degrees by their lower social status.

The ratio varies over the life cycle. Male birth rates exceed those of females by roughly five percent at birth due to biological factors, but female survival is higher from the fetal stage forward, if females and males are given similar care. This is explained by female resistance to diseases in infancy and differences in sex hormones in adolescence, which leads to higher mortality rates for males up to the age of 30. At that point, the ratio becomes balanced. But beyond this stage, if females are not severely disadvantaged, their survival rates exceed males' up to menopause, causing the population ratio to favor females. As fertility rates decline and populations live longer, female relative ratios would likely lead to a higher share of women than men in the population since women usually outlive men. Operating in the opposite direction, there are a growing number of female abortions, as sex-selective abortion becomes more commonplace (Clarke 2000). Falling ratios may also be due to excess female mortality, gender inequities in access to resources for female children, including health care and nutrition, female-intensive out-migration, and female-intensive violence (See Clarke 2000 on spatial geographic distribution of men and women as mobility of women changes).

In societies where males are seen as socially and economically more valuable, or women are unable to exert sufficient power to protect female children on an equal basis with male children, we would expect a lower ratio than where greater equity is evident. A movement toward a higher ratio can be interpreted as a higher female quality of life or greater equity in well-being, though the exact chain of causality is not revealed in the indicator. In this sense, the variable is a rough proxy for the complex social dimensions of gender inequality. One of the challenges of using this variable is that a rising ratio, beyond a threshold ratio, may be due to male disadvantage, resulting from violence, war, or greater male use of alcohol and drugs, for example. That threshold ratio is not easy to determine since factors that influence mortality and life expectancy vary over

time. This problem exists with a variety of the variables used in this analysis, such as education ratios, where female education exceeds male education for some countries. Theoretically, we might want to develop a method of calculating indicators so that female well-being that exceeds males' is not counted as a social "good." In practice, only one of the countries in our sample has a female to male population ratio that is noticeably high (Barbados at 107), and it is about equivalent to the European average of 106, where life expectancies are very high.

Ratio of Adult Male to Female Mortality Rates

Adult male mortality rates (measured per 1000 persons) generally exceed female rates due to a variety of factors, including a higher incidence for males of such behaviors such as alcohol and tobacco consumption and violence. The gap between male and female mortality rates will be smaller, however, if women have less access to health care or food, if maternal health care provision is lacking, and if mortality from domestic violence is severe. In contrast to the population ratio, which captures differences in treatment of the young, this measure focuses on the adult population, although in some sense, it reflects cumulative discrimination since women's health status in adulthood may be more compromised than men's if treated unequally in earlier years. Gender bias is inferred by contrasting the male to female mortality rate with that of a reference developed country population. Following Svedberg (1996), I use Sweden as the reference population.³ This method is used as a way to sort out the biological factors that lead to gender differences in mortality rates from those that are behavioral. A ratio below 1 indicates country-specific gender bias relative to the reference population.

Fertility

Measures of female fertility (average number of live births per adult female) are an indirect measure of women's well-being. Excess fertility frequently points to women's lack of control over reproductive decisions, and reflects stress on women's health, both through the physical cost of child-bearing and nurturing in early years, as well as in the labor time required to care for additional children. (In the latter regard, this can also therefore be considered a variable that measures access to resources. As women spend more time in the care of children, there is less time available for activities that generate income). A decline in fertility is considered to be an indicator of improvement in women's quality of life, reflecting improvements in their agency.

2) Education

There is intrinsic benefit to women's education beyond income-earning possibilities, in that it leads to women's enhanced understanding of the array of choices they may face, as well as their agency to change inequitable situations. I use three measures of relative educational attainment—secondary enrollment rates, youth illiteracy, and total educational attainment. These are discussed in further detail below.

Ratio of Female to Male Gross Secondary School Enrollment Rates

The gross ratio of female to male secondary enrollment rates is a flow variable. It tells us, at a given point in time, what percentage of female children of secondary school age are enrolled

relative to the male rate in the same age group. This variable reflects treatment of females relative to males, indicated by society's relative willingness to invest resources in their education in the current period. There are limitations on the ability of this variable to reflect gender inequality since these data do not take account of past discrimination against women in access to education. Further, because this is a gross (not net) ratio, it does not account for gender differences in drop-out rates.⁴

Ratio of Male to Female Youth Illiteracy Rates

The ratio of male to female illiteracy rates for those aged 15-24 is used in this analysis to capture gender differences in well-being. The literacy rate, defined as the ability of a person to read and write, with understanding, a short simple statement on everyday life, is often frowned on as an indicator. This is because, frequently, the characteristic is self-reported and, there are cross-country differences in the literacy criterion. While that weakness is difficult to overcome, it is attenuated in this case, since we are measuring ratios of male to female rates, rather than absolute levels of attainment. I use this variable in addition to the variable on secondary school enrollment because it captures a threshold of empowerment that can lead to improvement in status and bargaining power. This is also a flow variable.

Ratio of Female to Male Total Average Years of Educational Attainment

Another measure of education used here is the ratio of women's to men's total educational attainment of those over 15. This is a stock variable in that it gives information about older members of the population and summarizes past discrimination. It provides further breadth in our understanding of gender equity, since it includes measures of schooling beyond basic levels. One might argue that in increasingly industrialized societies, higher levels of educational attainment are necessary not only as a means to develop the mental skills to make choices, but also to provide access to labor markets.

3) Access to Resources

Access to resources is influenced by a person's ability and agency to engage in productive activity. That access may occur directly, via the generation of earnings, or indirectly, if outside work options influence a woman's bargaining power within the household, leading to a gender-enabling redistribution of household resources. Education does not insure access to material resources. Therefore, a separate set of indicators is required to capture this aspect of well-being.

The gap between education and access to resources is in part explained by pervasive job discrimination, with women paid significantly less than men on average, after accounting for gender differentials in productivity. This may be the result of employer behavior in non-competitive markets (Black and Brainerd 2002). There is also evidence that the effect of job segregation, with women over-represented in "mobile" industries or flexible jobs, is low bargaining power vis-à-vis employers relative to men, with the result that wage gaps remain wide, even as educational gaps close (Bhattacharaya and Rahman 1999; Seguino 2000c; Berik, Van der Meulen Rodgers, and Zveglic 2002).

Measuring access to resources, while necessary, is complex. Data on job segregation and pay differentials would have been preferred, but these are sparse. I therefore rely on labor market data, which provides a proxy for access to income, although in an imprecise way. There is no single measure that can capture labor market outcomes, in part due to the complexity of gender differences in labor market outcomes. It is also dangerous to rely on a single indicator since across countries, variables may be collected or measured differently⁵ and thus I include three measures of access to resources, all related to labor and labor market outcomes.

Female Share of the Labor Force

Labor force comprises all people who furnish labor for the production of goods and services at any time during a specified time period, and thus includes both the employed and unemployed. It covers work that is for pay and not for pay (e.g., subsistence agriculture). Even if providing unpaid labor, women's contribution to economic well-being of the household via their productive labor can improve their status within the family and society. Berik and Bilginsoy (2000), for example, provide convincing evidence for Turkey that women's participation rate in unpaid labor activities is a good measure of their economic value, perhaps related to the importance of female labor in agriculturally-based economies. This then is a broad measure of women's ability to engage in productive activities, but it may overstate their well-being for several reasons. First, the status conveyed by productive activity may differ from country to country. Second, countries differ in the criteria adopted to determine whether workers, particularly unpaid family workers on farms, are to be counted among the economically active. Also, the lower bound on age of workers to be considered economically active differs from country to country.

Female share of employment

Female share of employment should be closely related to female share of the labor force, but this variable differs in some important respects. The data on employment refer to labor in paid employment or self-employment, for one or more hours a week. The employed include workers who 1) are temporarily laid off, 2) are not at work due to illness or other contingency, and/or 3) are on leave, with or without pay, but who nevertheless retain a formal attachment to their job. Because this variable reflects gender differences in unemployment, which can reduce household bargaining power, it captures an aspect of well-being not captured in the female share of the labor force. It is, though, not a precise measure of unemployment or access to income due to differences in measurement.

Ratio of male to female unemployment rates

Sen (1990a) and others focus on women's paid labor as a measure both of their value and their bargaining power. Specifically, access to income is assumed to improve women's bargaining power since the cost of leaving a job or a relationship is reduced as they gain access to independent sources of income. Moreover, women's access to income can have important effects on the ability to provide material resources for themselves and their children that male members may not provide with their income. This can lead to an increase in women's ability to affect the distribution of resources within the family, and also the distribution of unpaid labor time between women and

men. Unfortunately, I lack sufficient time-series data to differentiate between paid and unpaid labor, or on relative female to male wages. I therefore use the ratio of male to female unemployment rates, which generally refers to paid employment. There are differences in the way that countries measure this variable as well, with Anglophone Caribbean economies, for example, including discouraged workers among the unemployed (Seguino 2002b). This is a more accurate measure of unemployment since it counts persons who might otherwise be recorded as non-labor force participants if they do not have a job and have given up looking for work—even if they desire a job.

¹ This measure is used in place of life expectancy data, which are based on model life tables rather than real data. A weakness of the latter approach is that the tables are estimated from data that are often difficult to verify, given the underreported number of infant deaths (Bardhan and Klasen 1999). Moreover, that variable does not capture age-specific differences in mortality due to gender discrimination.

² Author's calculations from World Development Indicators, 2002. The mean is unweighted and is not significantly different from the unweighted median. Clarke (2000), using data from the United Nations Demographic Yearbook (1997), found for 1995 an average ratio of females to 100 males of 106 for developed economies, 107 for the Europe region, and 111 for Eastern Europe (the latter the highest globally).

³ For a more in-depth discussion of this issue, see Agnihotri (1999).

⁴ Data on net enrollment rates would have been preferable but the large number of missing observations for the set of countries studied here made this infeasible.

⁵ For example, some data are obtained from workers 15 and older, while others count workers 12 and over. Data may be drawn from establishments with differing minimum sizes (e.g., 5 vs. 10 workers). Some countries include only civilians, while others include military in employment data.

APPENDIX B

Table B.1. Sample Countries

Argentina
Bahamas
Barbados
Belize
Bolivia
Brazil
Chile
Colombia
Costa Rica
Dominican Republic
Ecuador
El Salvador
Honduras
Jamaica
Mexico
Panama
Paraguay
Peru
Suriname
Trinidad and Tobago
Uruguay
Venezuela

Table B.2. List of Gender Well-Being Variables, Definitions, and Sources

Variable Category	Variable	<i>Description of Variable</i>	<u>Source</u>
<u>Health</u>	F/M Population	Ratio of females to males in population	WDI
	Relative F/M Mortality	Ratio of adult female to male mortality rates per 1000 (probability of dying between the ages of 15 and 60), relative to reference population (Sweden)	WDI
	Fertility	Female fertility rate	WDI
<u>Education</u>	F/M Secondary School Enrollment rate	Ratio of female to male gross secondary school enrollment	WDI
	F/M Youth Illiteracy Rate	Ratio of female to male youth illiteracy rate (15-24)	UN Common Database (from UNESCO)
	F/M Total Average Years Education	Ratio of female to male average years of total education	Barro and Lee 2000
<u>Labor market access and income</u>	Female Share of Labor Force	Female share of labor force	WDI
	Female share of Total Employment	Female share of employment	ILO
	Ratio F/M Unemployment Rate	Ratio of female to male unemployment rates	ILO

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